

REMARKS

This application has been carefully reviewed in light of the Office Action dated August 17, 2010. Claims 1 and 3 to 18 are pending in the application. Claims 1, 13 and 14 are the independent claims. Reconsideration and further examination are respectfully requested.

Claim 14 was rejected under 35 U.S.C. § 101 for allegedly being directed to non-statutory subject matter. In particular, the Office Action alleges that the claimed computer-readable storage medium is directed to transitory subject matter such as a signal.

This rejection is traversed. First, consistent with the specification, the specification recites non-transitory media such as a CD-ROM or a hard disk drive. Furthermore, the specification is not seen to disclose that any of the storage media are transitory, much less that the storage media might be signals or carrier waves.

Moreover, Claim 14 is directed to a “computer-readable storage medium” and not to a “computer-readable medium”. Thus, Claim 14 cannot reasonably be interpreted to cover a transitory medium, since a transitory medium does not include the possibility of “storage”, as specified in Claim 14 .

Accordingly, even when given its broadest reasonable interpretation consistent with the specification and the claim language, it is not understood how the claimed storage medium is interpreted as “transitory”, or somehow susceptible to a rejection under § 101.

Nevertheless, without conceding the correctness of the rejection and solely in an effort to expedite prosecution, Claim 14 has been amended to recite a “non-transitory

computer-readable storage medium”. Withdrawal of the rejection is therefore respectfully requested.

Claims 1 and 3 to 18 were rejected under 35 U.S.C. § 103(a) over U.S. Publication No. 2002/0181765 (Mori) and U.S. Publication No. 2002/0038294 (Matsugu). This rejection is respectfully traversed, as discussed more fully below.

Independent Claims 1, 13 and 14 generally concern identifying a pattern of input data. A feature of a first layer is extracted from the input data, and a distribution of a feature extraction result is analyzed.

According to aspects of Claims 1, 13 and 14, a respective likelihood of extracting a feature of one of a plurality of categories for features is calculated. There is selective activation of at least one extraction module among a plurality of extraction modules for extracting features of respective categories. The selected extraction module has a calculated respective likelihood of extracting the feature for the category which is not less than a predetermined value.

By virtue of this arrangement, in which there is selective activation of certain extraction modules having a high likelihood of extracting a feature for a respective category, it is ordinarily possible to perform pattern recognition with greater accuracy while reducing processing requirements and identification errors.

Referring specifically to claim language, independent Claim 1 is directed to a pattern identification method of identifying a pattern of input data by hierarchically extracting features of the input data. A first feature extraction step extracts a feature of a first layer from the input data, and an analysis step analyzes a distribution of a feature extraction result in the first feature extraction step. A calculation step calculates a

respective likelihood of extracting from the input data a feature of one of a plurality of categories for features of a second layer, each feature of the second layer corresponding to a combination of features of the first layer, on the basis of the distribution analyzed in the analysis step. In addition, an activation step selectively activates at least one extraction module, among a plurality of extraction modules for extracting features of respective categories, whose calculated likelihood of the category for the feature of the second layer to be extracted from the input data is not less than a predetermined value. A second feature extraction step extracts a feature of the second layer from the input data by the selectively activated extraction module, and a storing step stores the extracted feature of the second layer in a memory.

Independent Claims 13 and 14 are directed to an apparatus and a computer-readable storage medium, respectively, substantially in accordance with the method of Claim 1.

The applied art is not seen to disclose or suggest the features of Claims 1, 13 and 14, and in particular is not seen to disclose or suggest at least the feature of selectively activating at least one extraction module among a plurality of extraction modules for extracting features of respective categories in a second layer, whose calculated likelihood of a category for a feature to be extracted is not less than a predetermined value.

Page 4 of the Office Action concedes that Mori does not disclose selectively activating at least one extraction module from among a plurality of extraction modules for extracting features of respective categories, whose calculated likelihood of the category for the feature to be extracted is not less than a predetermined value.

Nevertheless, the Office Action relies on Matsugu (Figure 9 and paragraphs [0208], [0251] and [0381]) for this feature. As understood by Applicant, Matsugu is directed to a pattern detecting apparatus having a plurality of hierarchized neuron elements to detect a predetermined pattern included in input patterns. Pulse signals output by the plurality of neuron elements are given specific delays by synapse circuits associated with the elements. See Matsugu, Abstract.

Nevertheless, the cited portions of Matsugu simply disclose activating a region having a size intrinsic to a processing channel centered about a fixation position. See Matsugu, Figure 31 and paragraph [0381]. Meanwhile, Matsugu may also sum a number of pulses associated with respective categories in a preceding layer over a period of time based on a predetermined temporal weighting function, and output a pulse from a neuron if a predetermined threshold is reached. See Matsugu, Figure 9 and paragraphs [0208] and [0251].

Thus, according to the cited portions, Matsugu's output is seen to be based on either a) a location, or b) a weighted sum of pulses received over a period of time, and a comparison of this sum against a threshold. Accordingly, the cited portions of Matsugu are not seen to disclose or suggest selectively activating a selected extraction module based on the likelihood of a category of a feature to be extracted, much less selectively activating at least one extraction module from among a plurality of extraction modules for extracting features of respective categories, whose calculated likelihood of the category for the feature to be extracted is not less than a predetermined value.

Therefore, independent Claims 1, 13 and 14 are believed to be in condition for allowance, and such action is respectfully requested.

The other claims in the application are each dependent from the independent claims discussed above and are therefore believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the claims, however, the individual consideration of each on its own merits is respectfully requested.

Turning to a formal matter, Applicants respectfully request that the next Office communication indicate consideration of the art cited in the Information Disclosure Statement dated November 1, 2010.

No other matters being raised, the entire application is believed to be in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Costa Mesa, CA office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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